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REMARKS

All of previously-pending claims 1, 3 and 5-22 were rejected either as obvious over U.S. Patent No. 5,282,205 to Kuznicki et al. in view of U.S. Patent No. 5,854,840 to Cannella Jr., or as obvious over that combination in view of one or more additional references. By the present amendment, claims 1, 3, 7, 11, 13, 15, and 17-19 are amended and new claims 23-31 are added.

Support in the originally-filed specification for the amendments is found, e.g., in the third and fourth sentences of paragraph 41 (describing "the use of a counter/timer monitoring transitions in the voltage level - low to high or high to low") and Fig. 9 (illustrating the "bit width" between high/low transition).¹ New claims 23-25 contain limitations presented in the independent claims prior to this amendment; support for new claims 26-28 is found in Fig. 8 and paragraph 43; and support for new claims 29-31 is found, e.g., in the Summary of the Invention.

Independent claims 1, 13, and 17 were previously amended to specify that the data transmission is at a rate that is continuously-variable, and the Examiner

¹ While there is not in haec verba support for "transmission frequency," the disclosure inherently supports this limitation, as one of ordinary skill in the art would have understood transmission frequency as conceptually equivalent to bit width (directly corresponding to its reciprocal).

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acknowledged that was not disclosed by Kuznicki. Rejecting the claims as obvious, however, the Examiner found disclosure of that missing feature from Cannella Jr.'s variable data rate transmission through variable length idle time signals between data packets. (Cannella Jr., col. 10, lines 20-30). Cannella Jr.'s insertion of idle time signals in a fixed-frequency data transmission so as to effectively vary the rate of data transmission is fundamentally different from the present invention. Consequently, all pending claims are hereby amended to substitute the previous claim term "rate of transmission" with "transmission frequency," and to specify that transmission frequency is determined by sampling the bit width of the synchronization bits.

For the Examiner's convenience, the independent claims are set forth below as now amended:

1. A method of transferring data comprising the following steps:
 - a) transmitting, at a transmission frequency that is continuously-variable and is not selected a priori, data that includes synchronization bits and bits conveying other information; and
 - b) receiving said transmitted data by the following steps:
 1. ascertaining transmission frequency by sampling the bit width of at least some of said synchronization bits; and
 2. receiving, at the ascertained transmission frequency, said bits representing other information.

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13. A device capable of receiving data at a frequency that is continuously-variable and is not selected a priori, said data including synchronization bits and bits conveying other information, said device including electronic circuitry that includes means for ascertaining transmission frequency by sampling the bit width of at least some synchronization bits and means for receiving subsequently transmitted bits at the ascertained transmission frequency.
17. A system for transferring data comprising:
- a) a bus;
 - b) at least one master device including means for connection to said bus, said master device including means for transmitting, at a frequency that is continuously-variable and is not selected a priori, data that includes synchronization bits and bits conveying other information; and
 - c) at least one slave device including means for connection to said bus, said slave device including means for ascertaining transmission frequency by sampling the bit width of at least some synchronization bits and means for receiving said bits conveying information at the ascertained transmission frequency.

While Cannella Jr. discloses a protocol that affords a continuously variable effective rate of data transfer, it only teaches a fixed-frequency (i.e., fixed signaling rate) data transmission - not a variable frequency. Rather than sampling and varying the actual bit width / frequency of signals, Cannella Jr. utilizes inserted idle time signals - all the while transmitting at the same fixed frequency (i.e., signaling rate) - in order to attain an overall effective data transmission rate that is variable. E.g., col. 3, lines 11-15 ("Moreover, different rates of data transmission are automatically accommodated up to a

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calculable predetermined maximum rate by means of varying the length or duration of idle time signal as will be further described herein."); col. 10, lines 27-38 ("Rate control is accomplished by providing a variable length Idle Time between data packets formatted according to FIG. 3. ... It is the variability of the Idle Time, sometimes referred to herein as that allows the data link of the present invention to operate with a fixed signaling rate while accommodating variable data rates."); col. 13, lines 41-50 (fixed signaling rate of 54.000000 MBaud; "the 54.000000 MHz time base preferably should be accurate within 20 parts per million ... include[ing] allowance for variation over temperature and first year aging"); col. 16, lines 56-63 (phase-locked loop synchronization at 54 MBd).

The present invention thus provides a fundamentally different feature than Kuznicki and Cannella Jr., providing different benefits. Specifically, as noted in the application (e.g., paragraph 5, original and pending claims 3 and 18), variable-frequency (i.e., variable bit width) transmission can be utilized to accommodate variations such as transmission conditions, capacitance loading on a system, and timing skew. Applicant also submits that both Kuznicki and Cannella Jr. are fundamentally incompatible with, and teach away from, modification to employ a variable-frequency transmission protocol.

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Conclusion

Form PTO-2038 is included herewith to cover the fees for the nine total claims in excess of twenty now presented.

It is respectfully submitted that the present application is now in condition for allowance. The examiner is invited to contact the undersigned by telephone in order to expedite prosecution of this application.

Respectfully submitted,
Law Offices of Thomas J. Brindisi

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